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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,446	03/08/2002	Satoru Tanaka	220449US2	8748

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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

CHAUHAN, ULKA J

ART UNIT	PAPER NUMBER
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2676

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/092,446

Applicant(s)

TANAKA, SATORU

Examiner

Ulka J. Chauhan

Art Unit

2676

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 14 and 15 are newly added and claims 1-15 are pending.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112: /

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Independent claims 1, 7, and 13 include the amended limitation, "a central processing unit connected to the image data processing unit ..."; the drawings illustrate that the CPU is connected only to the north bridge 103 (Figs. 2 and 11-16). The specification nowhere discloses that the north bridge performs any type of image processing. Therefore there is no written description that the CPU is connected to an image data processing unit. For examination purposes, based on Applicant's remarks on pg. 8, the ASIC 108 will be interpreted as the image processing unit.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. **Claims 1, 2, 7, 8, 13, 14, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (para. 0004-0008) (APA) and U.S. Patent No. 6,618,157 to Coyle et al.**

7. As per claims 1 and 2, APA discloses an image forming apparatus comprising:
an image data processing unit processing image data, the image data processing unit including a graphics port and a peripheral device interconnection port (Fig. 1: *ASIC 1602 including PCI 1609*; para. 0004 : *an image processing apparatus comprising a memory for storing drawing data connected to a print engine via an ASIC that is connected to AGP*);

a print engine connected to the peripheral device interconnection port to form a visible image based on the image data received through the peripheral device interconnection port (Fig. 1: *print engine 1610 coupled to the ASIC via PCI 1609*);

a central processing unit connected to the image processing unit and controlling transfer of the image data (Fig. 1: *CPU 1603 comprised within the controller 1601 and connected to ASIC 1602*; para. 0006: *The CPU 1603 interprets a drawing command and carries out drawing*

on a page buffer 1611 reserved in a MEM-C 1605. After the drawing on the page buffer 1611 is completed, a command is sent to the engine 1610. Then, the engine 1610 reads image data from the page buffer 1611 of the MEM-C 1605); and

first memory for storing the image data; the central processing unit stores the image data in the first memory; and second memory connected to the image data processing unit (para. 0004 and Fig. 1: *the CPU supplies drawing data to be stored in the local memory and the memory for drawing*).

8. As per claims 1 and 2, APA does not expressly teach the central processing unit and the first memory are connected on a side of the graphics port with respect to the image data processing unit; that the central processing unit transfers the image data stored in the first memory to the print engine through the graphics port, the image data processing unit, and the peripheral device interconnection port; or that transfers the image data from the first memory to the second memory through the graphics port so as to transfer the image data from the second memory to the print engine through the peripheral device interconnect port. Coyle discloses a computer 2 comprising a motherboard 6 carrying a RAM 10 and an AGP interface card 12 mounted thereon by an AGP connector 22; wherein the AGP interface card 12 comprises an AGP controller chip 24, chip 26, input and output FIFOs 28 & 30, user configurable hardware chips 34 & 36, and a custom interface board 38, and is coupled to a printer (c. 4 ll. 9-17, c. 4 ll. 63-c. 5 ll. 11, c. 12 ll. 4-7, and Figs. 1 and 2). The components of the AGP interface card 12 are considered together as an image data processing unit. Therefore, Coyle teaches a CPU (CPU on computer 2) and first memory connected on a side of the graphics port with respect to the image data processing unit. Coyle also discloses that in outputting image data to the photocopier, data

flows from the motherboard RAM 10 directly through AGP edge connector 22 and input and output FIFOs 28 & 30 within the AGP interface card 12 to the digital copier/printer (c. 6 ll. 32-57); therefore, Coyle discloses that image data is transferred from first memory (the RAM 10) to the second memory (output FIFO 30) through the AGP and from the second memory (output FIFO 30) to the printer (copier) through bus 18 (Fig. 1), without passing through the CPU (on the computer 2). APA discloses that data is transferred from the local memory to the print engine through the PCI (Fig. 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized the CPU and memory connected on a side of the AGP with respect to the image processing unit as taught by Coyle in combination with the image processing apparatus of the APA; whereby data is transferred from the system memory through the AGP to a local memory, and from the local memory through the PCI to the printer. One would have been motivated to have made this modification in order to provide a memory with enough capacity to store a full document for printing and so that operation of the computer and the printer at two different speeds does not result in any conflicts.

9. Claims 7, 8, 13, 14, and 15 are similar in scope to claims 1 and 2, and are rejected under the same rationale.

10. **Claims 3-6 and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (para. 0004-0008) (APA) and U.S. Patent No. 6,618,157 to Coyle et al and U.S. Patent No. 6,370,631 to Dye.**

11. As per claims 3-6, APA discloses a compressor connected between the graphics port and the second memory (para. 0004: *the ASIC generally has a compression function and a data transfer function*). APA does not expressly teach a decompressor connected so that

decompressed data is stored in the second memory or connected so that decompressed data is transferred from the first memory or the second memory. Dye teaches an integrated memory controller, IMC 140, comprising compression logic 302 and decompression logic 304, whereby the two logic function to store compressed or decompressed data to the system memory and to transfer compressed or decompressed data read out from the system memory (Figs. 7-15). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teachings of the APA, Coyle, and Dye whereby a decompression logic as taught by Dye is incorporated in the ASIC along with the compression function typically included in the ASIC. One would have been motivated to make such a modification so that decompressed data can be stored in the local memory disclosed by the APA or transferred to the print engine, as desired and as necessitated by data size and storage capacities of the memories.

12. Claims 9-12 are similar in scope to claims 3-6, and are rejected under the same rationale.

Response to Arguments

13. Applicant's arguments filed 12/7/04 have been fully considered but they are not persuasive. With respect to the claims, Applicant argues that the AMCC controller 24 in Coyle is part of the image data processing unit in Coyle, which is in contrast to the claims as clarified in the present response. Coyle is not relied upon to teach that the limitation that the central processing unit is a separate element from the image data processing, and is connected to the image data processing unit; APA (Fig. 1) discloses that the CPU is separate from the ASIC and is connected to the ASIC.

14. Applicant further argues that in Coyle image data is output from a RAM to a copier through the AMCC 24, which is also in contrast to the claims. More particularly, in the claims

image data is output to a print engine without passing through the CPU, which is in contrast to the teachings in Coyle. However, as Coyle discloses that in outputting image data to the photocopier, data flows from the motherboard RAM 10 directly through AGP edge connector 22 and other components within the AGP interface card 12 to the digital copier/printer (c. 6 ll. 32-57), Coyle discloses that image data is transferred to the printer without passing through the CPU (on the computer 2).

Conclusion

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ulka J. Chauhan whose telephone number is 571-272-7782. The examiner can normally be reached on Mon. through Fri., 9:30 a.m. to 4:00 p.m.

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17. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on 571-272-7778. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

18. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ulka J. Chauhan
Primary Examiner
Art Unit 2676

ujc
April 16, 2005